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I.—*A new Species and Genus of Coccidæ.*—By E. T. ATKINSON, B. A.

[Received September 30th;—Read November 7th, 1888.]

(With Plate I.)

The Coccid described below was received from Mr. F. Gammie, who procured it at Munghphu (3800 feet) in Sikkim on *Quercus incana*, *Castanea indica*, and *C. tribuloides*. I forwarded specimens to Mr. W. H. Maskell of Wellington, New Zealand, who devotes much attention to this family, and he has kindly sent me the drawings of the insect in its different stages shown on the accompanying plate. This coccid clearly belongs to Maskell's group *Hemicoccina*, which is characterised by having, in the larval stage, the anal tubercles of the *Coccina*, and, in the adult female, the abdominal cleft and lobes of the *Lecanina*. I had provisionally placed this insect in the genus *Pulvinaria* of the group *Lecanina*, as the adult female does not appear to differ from the adult females of that genus. Mr. Maskell was at first of the same opinion, but, having examined the larval form in its earliest stages, he found that it presented undoubted and distinct 'anal tubercles' (Fig. 11), which at once remove it from the *Lecanina*.

It cannot be placed in the genus *Kermes* of the group *Hemicoccina* owing to structural differences, so that we have to form a new genus, to which the name *Pseudopulvinaria*, as suggested by Mr. Maskell, has

been given to show its connection with the lecanid genus *Pulvinaria*. The insect is really a hemioccid possessing more lecanid appearances than any other of the group hitherto known. The position of the insect on the tree during its several stages is rather curious. The larvæ and the females of the second stage cluster along the midrib of the lower surface of the leaf, whilst the adult female alone is found along the twig to which the leaves are attached (Fig. 1). The secretion is closer than in *Pulvinaria*, and quite as cottony during the larval stage, but, in the second stage, becomes more waxy, so as to approach in appearance the genus *Orthezia*, and the masses of wax on the leaves are more like detached or attached plates (Fig. 2) than threads. Unfortunately the male has not yet been secured.

It is satisfactory to know that the adult female is subject to the attacks of several species of hymenopterous and dipterous parasites, which we may hope to characterise hereafter, for, otherwise, from the size and number of these coccids on the leaves and twigs affected, much damage must ensue, should they increase to any extent. It disappears during the rains (July—September), but comes on abundantly at the close of the rains, and matures about April.

Genus PSEUDOPULVINARIA nov.

Adult females naked, without a waxy fringe, somewhat circular or oval and flattish. In *Kermes*, the adult female is entirely globular, except a small incision where it rests on the twig to which it is attached, and appears to have neither legs, antennæ, nor rostrum.

PSEUDOPULVINARIA SIKKIMENSIS, n. sp.

Adult ♀, above reddish-brown, naked, somewhat convex, irregularly circular or oval in shape, varying in size, skin smooth, punctulate. The insect frequently falls off, leaving the white cottony ovisac attached to the twig. Furnished beneath with eyes, antennæ, legs and rostrum; the abdominal cleft and lobes distinct (Fig. 5): antennæ borne on a tubercle, 6-jointed, second joint longest, unarmed; others with setæ varying in length (Fig. 6): claw with four digitules, the upper pair longest (Fig. 7). The ovisac on which the female rests is formed of a compact white cerous substance, following and extending beyond the outline of the insect itself. The spinnerets (*jilîères*: Fig. 8) are scattered irregularly over the nether caudal surface and are not arranged in groups or circles. Found only on the twigs: long, 5—9 mill.

The ♀ of the second stage (Fig. 9) with its waxy plates is found on the lower surface of the midrib of the leaf. These plates seem to be

attached transversely to a longitudinal median ridge and give this form a peculiar ribbed appearance.

The larval form is furnished with antennæ, legs, rostrum, and anal tubercles bearing long setæ (Fig. 10). These tubercles are very distinct in the earliest stage of the larva (*l'état embryonnaire*: Fig. 11), and are characteristic of the group.

The ♂ is unknown.

Hab. Mungphu (3800 feet), Sikkim.

EXPLANATION OF PLATE I.

- Fig. 1. Insect on twig and leaves: slightly reduced.
 2. Waxy masses on leaves, magnified.
 3. Adult ♀, dorsal aspect, cotton removed: magnified about 4.
 4. Same, ventral aspect, cotton removed: magnified.
 5. Same, abdominal cleft, lobes, anogenital ring and spinnerets: do.
 6. Same, antennæ: × 90.
 7. Same, claw and digitules: × 90.
 8. Same, spinnerets: magnified.
 9. ♀ of second stage, dorsal aspect, with waxy plates.
 10. Larva, ventral aspect: × 90.
 11. Anal tubercles just before emerging from the egg: magnified.
 12. Edge of the body of larva with hairs &c.: × 350.
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W. M. Maskell del.
Parker & Coward lith.

West, Newman & Co. imp.

PSEUDOPULVINARIA SIKKIMENSIS, n.sp.